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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/397,481	09/16/1999	JAMES L. HAWS	004578.1025(	8802
45507	7590	01/28/2005		
BAKER BOTTS LLP 2001 ROSS AVENUE 6TH FLOOR DALLAS, TX 75201			EXAMINER CHAMBERS, A MICHAEL	
			ART UNIT 3753	PAPER NUMBER

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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TECHNOLOGY CENTER R3700

## Office Action Summary

Application No.

09/397,481

Applicant(s)

HAWS ET AL.

Examiner

A. Michael Chambers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09/29/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 7-12 and 19-23 is/are allowed.
- 6) ☐ Claim(s) 1-6, 13-18 and 24-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is in response to an amendment filed September 29, 2004 . A request for Continued Prosecution (RCE) was filed March 26, 2003. A communication from the examiner stating that the RCE and preliminary amendment filed March 6, 2003, was a Nonresponsive Amendment (failure to comply with 1.111 (b) ) was incorrect. In view of the filing of the RCE on March 26, 2003, , the finality of the Office action mailed December 31, 2002, has previously been withdrawn. An interview was held on July 21, 2004. In that interview the examiner stated that claims 7-12 and 19-23, which include the recitation of ribs and their function were allowable. Claims 1, 14, and 27 have been amended to the recitation that the heat pipe is disposed "...at least substantially within the chamber and disposed" within the material of the housing. Claims 1-36 are pending.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 13, and 24-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Faghri (4,976,308). Note the apparatus of Faghri which includes a housing 12 having as chamber including a phase change "porous" heat absorbing material (lithium salt such as lithium hydride) 18 and a plurality of heat pipes 22 disposed therein. The housing includes a plurality of "thermally conductive ribs" 23 (Figures 3 and 4). The heat pipes extend from the inner and outer

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surface of the housing which includes the phase change material. Antennae system recitation is readable on the heat pipes 22 and fins 23 structure (claim 23). With regard to claim 35, note column 3, lines 55+ in which brazing is disclosed as a method of construction of the apparatus (i.e., heat exchanger). Applicants' remarks were considered, however, not deemed persuasive. Ribs 23 defining channels are shown in Figure 3 of Faghri. The ribs 23 of Faghri do not include openings and the channels do not "...facilitate fluid communication between portions of said chamber." as recited in the last paragraph of allowed independent claim 7. Claims 1-6, 13, 24-26, method claims 14-18, and 27-36 do not include such recitation. As discussed above, claims 1, 14, and 27 have been amended to the recitation that the heat pipe is disposed "...at least substantially within the chamber and disposed" within the material of the housing. However contrary to applicants' remarks such heat pipe disposition is clearly shown in Figure 3 of Faghri. Remarks drawn to heat transfer characteristics of the housing of Faghri were considered, however the "...heat pipe 22 (of Faghri is) disposed at least substantially within the chamber (which includes the phase change "porous" heat absorbing material) and disposed within the material of said housing (12)." as recited in the independent claims.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

7. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faghri. It would have been obvious to one of ordinary skill in the art to operate the apparatus of Faghri, as discussed above, by the recited method steps.

#### ***Allowable Subject Matter***

8. Claims 7-12 and 19-23 are allowed over the prior art of record.

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent to Friefeld et al (Figure 1) is of particular interest. Note fins 16 and "salt" in the compartments 18.

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**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Michael Chambers whose telephone number is 571-272-4908. The examiner can normally be reached on Mon-Thur. 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on 571-272-4930. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



A. Michael Chambers  
Primary Examiner  
Art Unit 3753

amc  
January 24, 2005

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